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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,637	08/22/2003	Takao Tsuruoka	IPO-P1755	9783
3624	7590	05/21/2009	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			MISLEH, JUSTIN P	
			ART UNIT	PAPER NUMBER
			2622	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

<b>Application No.</b> 10/646,637	<b>Applicant(s)</b> TSURUOKA, TAKAO	
<b>Examiner</b> JUSTIN P. MISLEH	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 18 March 2009.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1 - 30 is/are pending in the application.  
4a) Of the above claim(s) 8-10, 14, 20-22 and 26 is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-5, 7, 15-17, 19 and 27 - 30 is/are rejected.
- 7)  Claim(s) 6, 11-13, 18 and 23-25 is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on 22 August 2003 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \*    c)  None of:
1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5)  Notice of Informal Patent Application
- 6)  Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 18, 2009 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed March 18, 2009 have been fully considered but they are not persuasive.

3. Applicant's arguments primarily focus shooting condition estimator of the present invention. See Amendment, pages 14 and 15. Applicant indicates "the shooting condition estimator [in Mancuso et al.] is clearly different from that disclosed in the present application." Applicant notes the Examiner relies on Mancuso et al. elements 230, 235 and 240 to show the claimed shooting condition estimator; however, Applicant states, "calculation unit 230, automatic exposure correction unit 235 and white balancing unit 240 of Mancuso et al. are directly responsive to the image signal and correct the image signal based on the histogram or the color temperature of the light source." Applicant concludes, "the present application [as presently claimed] teaches a shooting situation estimator which estimates a shooting situation ... totally independent of the image obtained."

Art Unit: 2622

4. In response to Applicant's arguments and amended claim language, the Examiner now solely relies on Mancuso et al. calculation unit 230 to show the claimed shooting condition estimator. According to Mancuso et al., "a signal output by the multiplexer 210 is also applied to a calculation unit 230 which produces a histogram of the frequency distribution of the image." (See Mancuso et al., column 4, lines 13 - 15). According to Claim 1, as amended, all that is required is that a shooting condition estimator is provided for estimating a shooting condition when an image based on said signal is acquired that doesn't directly affect the image based on said signal. There is no language in Claim 1 elaborating on what the actual shooting condition estimate is or how the estimator functions. The histogram in Mancuso et al. is simply an evaluation of the image captured. The image captured is a representation of a scene based on capturing the conditions of the image pickup system at the time of capture. Thus, the calculation 230 by itself functions, in effect, as the claimed shooting condition estimator. For these reasons, the rejections of Claims 1 and 27 will be maintained.

5. Applicant presents additional arguments regarding the noise reducing unit. See Amendment, page 16. These arguments are identical to those present on pages 17 and 18 of the Amendment filed October 6, 2008. The Examiner addressed these arguments in the Final Rejection mailed December 24, 2008. See items 4 and 5. The Examiner maintains that position in this Office Action. Thus, for these reasons, the rejection of Claims 1 and 27 will be maintained.

6. Applicant's arguments with respect to new Claims 28 – 30 have been considered but are moot in view of the new grounds of rejection.

Art Unit: 2622

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1 – 4, 15, 16, and 27** are rejected under 35 U.S.C. 102(b) as being anticipated by Mancuso et al. (US 6,256,414 B1).

9. For **Claims 1 and 27**, Mancuso et al. disclose, as shown in figures 1 and 2, an image pickup system comprising:

a noise estimator (245) for estimating an amount of noise contained in a digitized signal from an image pickup element (120) composed of an array of a plurality of pixels, either for each pixel or for each specified unit area comprising a plurality of pixels (see column 2, lines 26 – 58; and column 4, lines 32 – 53);

a shooting condition estimator (230) for estimating a shooting condition when an image based on said signal is acquired, without directly affecting the image based on said signal (see column 4, lines 11 – 31; also see Examiner’s interpretation below);

a correction unit (250) for correcting the amount of noise estimated by the noise estimator (245) based on the shooting condition estimated by the shooting condition estimator (230; 235; and 240; see column 4, lines 32 – 53); and

Art Unit: 2622

noise reducing unit (255) for reducing the noise in the signal based on the amount of noise corrected by the correction unit (see column 4, lines 54 – 58).

According to Mancuso et al., “a signal output by the multiplexer 210 is also applied to a calculation unit 230 which produces a histogram of the frequency distribution of the image.” (See Mancuso et al., column 4, lines 13 - 15). According to Claim 1, as amended, all that is required is that a shooting condition estimator is provided for estimating a shooting condition when an image based on said signal is acquired that doesn't directly affect the image based on said signal. There is no language in Claim 1 elaborating on what the actual shooting condition estimate is or how the estimator functions. The histogram in Mancuso et al. is simply an evaluation of the image captured. The image captured is a representation of a scene based on capturing the conditions of the image pickup system at the time of capture. Thus, the calculation 230 by itself functions, in effect, as the claimed shooting condition estimator.

10. As for **Claim 2**, Mancuso et al. disclose, as shown in figures 1 and 2, color filters arranged on a front surface of the image pickup element (120; see column 2, lines 26 – 58); and a separating unit (205) for separating the signal that is output from the image pickup element into signals for each color filter (see column 3, lines 42 – 50).

11. As for **Claims 3 and 15**, Mancuso et al. disclose, as shown in figures 1 and 2, wherein the noise estimator (245) comprises:

parameter calculator (245) for calculating parameters based on at least one type of information selected from among a signal value level of the signal (“estimate of the noise dependent on the luminosity of the digital image”; see column 4, lines 33 – 34), *a temperature of*

Art Unit: 2622

*the image pickup element, a gain for the signal, and a shutter speed during shooting (not required due to the alternative nature of the claim language); and*

a noise amount calculator (245) for calculating the amount of noise based on the parameters calculated by the parameter calculating means calculator (“estimate of the noise dependent on the luminosity of the digital image”; “The digital image is modified on the basis of the estimation performed by the unit 245 so as to reduce dynamically the effects of the noise introduced by the light sensor, dependent on the noise level and on the spatial characteristics of the image”; see column 4, lines 33 – 44).

12. As for **Claims 4, 5, 16, and 17**, Mancuso et al. disclose, as shown in figures 1 and 2, wherein the shooting condition estimator (230) comprises an overall estimator (230) for estimating the shooting condition for an overall signal when an image based on the signal is acquired (see column 4, lines 12 – 21), based on exposure information.

According to Mancuso et al., “a signal output by the multiplexer 210 is also applied to a calculation unit 230 which produces a histogram of the frequency distribution of the image.” (See Mancuso et al., column 4, lines 13 - 15). The histogram in Mancuso et al. is simply an evaluation of the image captured. The image captured is a representation of a scene based on capturing the conditions of the image pickup system at the time of capture, which includes exposure information. Thus, the calculation 230 by itself functions, in effect, as the claimed shooting condition estimator which estimates based on exposure information.

Art Unit: 2622

13. **Claims 28 and 29** are rejected under 35 U.S.C. 102(e) as being anticipated by Gindele et al. (US 7,054,501 B1).

14. For **Claim 28**, Gindele et al. disclose, as shown in figures 2 and 3, an image pickup system, comprising:

a parameter calculator (130) for calculating a signal level of a digitized signal from an image pickup element composed of an array of a plurality of pixels (201), and information provided independently of said signal level (202), as parameters for use to estimate an amount of noise (see column 4, lines 37 – 51; and column 5, line 47 – column 6, line 19);

a noise estimator (140) for calculating a coefficient (“RC”) of a function equation (standard deviation) for estimating an amount of noise with respect to said signal level as a function that uses (see table 2), as a variable, a parameter related to the independently provided information (see column 11, lines 40 – 66), and estimating an amount of noise contained in said signal, either for each pixel or for each specified unit area comprising a plurality of pixels, using the function equation specified by the calculated coefficient (see column 7, line 24 – column 8, line 48); and

a noise reducing unit (22/23) for reducing noise in said signal based on the amount of noise estimated by the noise estimator (see figure 2).

15. As for **Claim 29**, Gindele et al. disclose, as shown in figures 2 and 3, a shooting condition estimator (130) for estimating a shooting condition when an image based on said signal is acquired (see column 5, lines 47 – 67; The histogram is simply an evaluation of the image captured. The image captured is a representation of a scene based on capturing the conditions of the image pickup system at the time of capture.); and



Art Unit: 2622

a correction unit (22/23) for correcting the amount of noise estimated by the noise estimator (110) based on the shooting condition estimated by the shooting condition estimator, wherein the noise reducing unit reduces noise in said signal based on the amount of noise corrected by the correction unit (see column 4, line 28 – 37).

### ***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claims 7 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mancuso et al. (US 6,256,414 B1) in view of Official Notice (MPEP § 2144.03).

18. As for **Claims 7 and 19**, Mancuso et al. disclose, as shown in figures 1 and 2, wherein the shooting condition estimator (230) comprises an overall estimating means (230) estimator for estimating and judging, based on exposure information, whether or not the shooting condition relating to an overall signal when an image based on the signal is acquired is of *back-lighting or excessive front lighting* (see column 4, lines 13 – 21).

According to Mancuso et al., “a signal output by the multiplexer 210 is also applied to a calculation unit 230 which produces a histogram of the frequency distribution of the image.” (See Mancuso et al., column 4, lines 13 - 15). The histogram in Mancuso et al. is simply an evaluation of the image captured. The image captured is a representation of a scene based on capturing the conditions of the image pickup system at the time of capture, which includes

Art Unit: 2622

exposure information. Thus, the calculation 230 by itself functions, in effect, as the claimed shooting condition estimator which estimates based on exposure information.

However, Mancuso et al. do not disclose whether or not the shooting condition is of night view shooting.

However, the Examiner respectfully takes **Official Notice** (MPEP § 2144.03) that both the concepts and advantages of determining whether the shooting condition is of night view shooting are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have also included whether the shooting condition is of night view shooting in Mancuso et al. for the advantage of *even further enhancing image quality*.

19. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gindele et al. (US 7,054,501 B1) in view of **Official Notice** (MPEP § 2144.03).

20. As for **Claim 30**, Gindele et al. disclose that the information provided independently of said signal level can be a unique source identification tag providing information regarding the digital image capture device (see column 12, 12 – 24); however, Gindele et al. do not disclose where the information is information of at least one of a temperature of the image pickup element, a gain for the signal, and a shutter speed during shooting.

However, the Examiner respectfully takes **Official Notice** (MPEP § 2144.03) that both the concepts and advantages of providing information that is information of at least one of a temperature of the image pickup element, a gain for the signal, and a shutter speed is well known and expected in the art. At the time the invention was made, it would have been obvious to one

Art Unit: 2622

with ordinary skill in the art to have also included such information in Gindele et al. for the advantage of *even further enhancing image quality*.

*Allowable Subject Matter*

21. **Claims 6, 11 – 13, 18, and 23 – 25** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2622

***Conclusion***

22. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, David Ometz can be reached on 571.272.7593. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**/Justin P. Misleh/  
Primary Examiner  
Group Art Unit 2622  
May 21, 2009**